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To: [McCue, Tom](#)
Cc: [Myron.Burr@siltronic.com](#); [Gladstone, Alan](#); [James Peale](#); [rjw@nwnatural.com](#); [pdost@pearllegalgroup.com](#); [jedwards@anchoragea.com](#); [cstivers@anchoragea.com](#); [robe@hahnenv.com](#); [Rene Fuentes/R10/USEPA/US@EPA](#); [Chip Humphrey/R10/USEPA/US@EPA](#); [Kristine Koch/R10/USEPA/US@EPA](#); [Sean Sheldrake/R10/USEPA/US@EPA](#); [PetersonLE@cdm.com](#); [ANDERSON Jim M](#); [GAINER Tom](#); [LARSEN Henning](#); [Chris Reive](#)
Subject: RE: Siltronic, WS-33-81 DNAPL TCE Data and Data Trends
Date: 05/02/2011 04:42 PM

Good afternoon Tom.

DEQ read the attachments to the April 25, 2011 e-mail sent by James Peale (see below), and it appears there are misunderstandings with regard to DEQ's March 24, 2011 letter commenting on the WS-33-81 Memorandum (see footnote). As a result, the letter and revised version of the WS-33-81 Memorandum attached to the April 25th e-mail do not address DEQ's March 24th direction and we disapprove both documents.

This e-mail summarizes background information on the work being done to assess the composition and source(s) of dense non-aqueous phase liquid (DNAPL) in the vicinity of the source area of the Siltronic Corporation (Siltronic) trichloroethene (TCE) releases (i.e., the former solvent underground storage tank system [Former UST System]), and clarifies the status of DEQ reviews of recent submittals.

I would like to make it clear DEQ is not requesting Siltronic to respond to this e-mail. DEQ believes the best forum for following up on the matter, including the selection, use, and evaluation of data to assess the source(s) of DNAPL, is during the upcoming meeting Siltronic and DEQ are currently arranging.

Background

In a series of e-mails exchanged between Maul Foster and Alongi, Inc. (MFA) and DEQ in September 2009, a protocol for screening and measuring dense non-aqueous phase liquid (DNAPL) in the Group 1 and 2 performance monitoring wells (PMWs) was developed. The objective of the measurements was to further assess DNAPL in PMWs, including the source(s) of the material (i.e., former Siltronic solvent underground storage tank [UST] system [TCE DNAPL], or former Gasco MGP [MGP DNAPL]).

In an e-mail dated September 23, 2009, DEQ informed Siltronic that laboratory analysis of DNAPL was warranted if the source(s) of the material could not be conclusively determined based on field measurements and observations. DEQ informed Siltronic in an e-mail sent September 25, 2009, that field-based methods were not reliable for determining DNAPL source(s) and indicated DNAPL samples should be collected for analysis.

Previous investigations completed in the vicinity of the Former UST System documented the occurrence of MGP DNAPL. Based on this information, the DNAPL measurements and analyses were more geared towards assessing the potential for TCE DNAPL to occur in the subsurface.

DEQ Review of the WS-33-81 Memorandum

The WS-33-81 Memorandum presents the results of analyzing samples of DNAPL collected from monitoring well WS-33-81 from July 2009 through October 2010. The memorandum also compares the DNAPL results with analyses of groundwater samples collected between February 2009 and October 2010 from the same well, and presents interpretations of the data and conclusions regarding concentration trends.

Please note, the content of the WS-33-81 Memorandum was not discussed with DEQ prior to it being submitted, and we did not request Siltronic to perform the data evaluations presented in the document. Furthermore, the document does not mention the original objective of collecting and analyzing DNAPL samples (i.e., assess TCE DNAPL occurrence in the subsurface).

DEQ provided comments on the WS-33-81 Memorandum in a letter dated March 24, 2011 which informed Siltronic that DEQ:

- Did not accept Siltronic's interpretations and conclusions regarding TCE concentration trends in DNAPL samples collected from monitoring well WS-33-81; and
- Required Siltronic to revise and resubmit the WS-33-81 Memorandum to address the original objective of collecting and analyzing DNAPL samples.

For clarification, by not accepting Siltronic's interpretations and conclusions about TCE concentration trends in DNAPL, DEQ did not accept the WS-33-81 Memorandum. As such, DEQ's direction to revise and resubmit the document meant Siltronic should revise the memorandum focusing only on the objective of assessing TCE DNAPL occurrence. In other words, DEQ did not intend for Siltronic to resubmit a revised version of a document we did not request or accept, but that Siltronic should provide a separate document which focused on the original objective of the DNAPL evaluation.

DEQ Review of the April 25th E-mail Attachments

Regarding the letter and revised version of the WS-33-81 Memorandum attached to MFA's April 25th e-mail, the content of the two documents was not discussed with DEQ prior to submittal, and they provide limited discussions of the potential occurrence of TCE DNAPL. As mentioned above, neither the letter or the revised version of the WS-33-81 Memorandum address this objective and DEQ disapproves both documents. For clarification, DEQ does not accept the revised version of the WS-33-81 Memorandum as data interpretations continue to rely on the limiting assumption(s) discussed in DEQ's March 24th letter.

The scope of the TCE DNAPL assessment, including the data to be evaluated, should be discussed during the upcoming meeting requested by Siltronic. To avoid further misunderstandings, subsequent to the upcoming meeting DEQ will require Siltronic to prepare and submit a document which focuses on assessing TCE DNAPL occurrence in the subsurface.

The DEQ team is not available to meet this week or during the week beginning May 16th. I am

currently checking our availability for the week of May 23rd and will route an e-mail with the dates/times we can meet early this week.

Please feel free to contact me questions regarding this e-mail.

Mr. Dana Bayuk, Project Manager
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Footnote. Maul Foster and Alongi, Inc., 2011, "ISCR-Enhanced Bioremediation Performance Monitoring Data Submittal DNAPL and Groundwater Data – WS-33-81, Siltronic Corporation – ECSI #183," January 17, a technical memorandum prepared for Siltronic Corporation.

From: James Peale [mailto:jpeale@maulfoster.com]
Sent: Monday, April 25, 2011 1:16 PM
To: BAYUK Dana; McCue, Tom
Cc: Myron.Burr@siltronic.com; Gladstone, Alan; rjw@nwnatural.com; pdost@pearllegalgroup.com; jedwards@anchorage.com; cstivers@anchorage.com; robe@hahnenv.com; Fuentes.Rene@epamail.epa.gov; humphrey.chip@epa.gov; koch.kristine@epa.gov; sheldrake.sean@epa.gov; PetersonLE@cdm.com; ANDERSON Jim M; GAINER Tom; LARSEN Henning; Chris Reive
Subject: RE: Siltronic, WS-33-81 DNAPL TCE Data and Data Trends

Good afternoon Dana – attached please find the memorandum revised as suggested. As noted in the attached letter, it would be helpful to evaluate DEQ's comments on the memo in a collaborative setting. As we have discussed, DEQ comments regarding fill zone injections also warrant further discussion. Accordingly, Siltronic suggests meeting during the week of May 2 (either 5/2 or 5/3) or May 16 (5/16, 5/17, or 5/18[pm]) to discuss these and other source control related issues.

Please let me know if you have any questions or comments.

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From: BAYUK Dana [mailto:BAYUK.Dana@deq.state.or.us]
Sent: Thursday, March 24, 2011 6:55 PM
To: McCue, Tom
Cc: Myron.Burr@siltronic.com; Gladstone, Alan; James Peale; Erik Bakkom; rjw@nwnatural.com; pdost@pearllegalgroup.com; bhung@anchorqea.com; jedwards@anchorqea.com; cstivers@anchorqea.com; robe@hahnenv.com; Fuentes.Rene@epamail.epa.gov; humphrey.chip@epa.gov; koch.kristine@epa.gov; sheldrake.sean@epa.gov; PetersonLE@cdm.com; ANDERSON Jim M; GAINER Tom; LARSEN Henning
Subject: Siltronic, WS-33-81 DNAPL TCE Data and Data Trends

Hello Tom.

DEQ reviewed the technical memorandum titled, "ISCR-Enhanced Bioremediation Performance Monitoring Data Submittal DNAPL and Groundwater Data – WS-33-81, Siltronic Corporation – ECSI #183" dated January 17, 2011 (WS-33-81 Memorandum), and an electronic copy of our comments letter is attached.

<<Lcfnl-TCE_Trends-WS33-81_DNAPL.pdf>>

A signed hard copy of the letter will be sent via regular mail this week.

The WS-33-81 Memorandum presents the results of analyzing DNAPL samples collected from monitoring well WS-33-81 from February 2009 through October 2010. The memorandum also compares the DNAPL results with analyses of groundwater samples collected from the same installation and presents Siltronic's interpretation of the data.

The primary purpose of DEQ's letter is inform Siltronic we do not accept the interpretations and/or conclusions presented in the WS-33-81 Memorandum regarding TCE concentration trends in DNAPL samples. In addition, DEQ considers it premature for Siltronic to draw conclusions regarding the effectiveness of EHC/KB-1 at reducing daughter product concentrations as evaluation of the data being collected is ongoing.

Please note this determination does not change DEQ's previous acknowledgement regarding TCE concentrations in groundwater (i.e., currently concentrations of TCE in groundwater collected from Group 1 and Group 2 performance monitoring wells are less than the RAO #1 criterion of 11,000 ug/L).

Siltronic should revise and resubmit the memorandum to provide information regarding the potential presence of TCE DNAPL in the subsurface. This was the original objective of collecting and analyzing DNAPL samples for analysis, and it is not mentioned or discussed in the WS-33-81 Memorandum.

Please contact me with questions regarding this e-mail or the attachment.

Mr. Dana Bayuk, Project Manager
Cleanup & Portland Harbor Section

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